Claims

1. Component having a hermetic seal,

- having a sandwich-like glued structure, the outside edges of which are aligned, comprising

- a chip (Ch) on the surface of which component structures (BS) and connector metallizations connected with them are implemented,

- a frame structure (RS), which surrounds the component structure, and

- a diffusion-proof cover (AD),

- having a back face metallization (RM) that reaches beyond the back face of the chip, beyond all the butt edges (SK) of the sandwich-like structure,

- having underside contacts (UK) on the underside of the cover (AD) facing away from the chip,

- having interfacial connections (DK) through the cover, which connect the component structures (BS) on the chip with the underside contacts, in electrically conductive manner,

- wherein the inside surfaces of the interfacial connections are metallized with an underside metallization (UM) and thereby sealed in diffusion-proof manner.

2. Component as recited in claim 1,

in which a closed cavity is formed within the frame structure (RS), between the chip (Ch) and the cover, within the sandwich-like structure.

3. Component as recited in claim 1 or 2,

in which the frame structure (RS) forms a branch (AL) that points towards the inside, or an insulated island (Rs_i), which surround another cavity within the sandwich-like structure, in which the connector metallizations (AM) on the surface of the chip (CH) lie exposed.

4. Component as recited in one of claims 1 - 3,

in which another wiring level (VE) is provided within the sandwich-like structure, which is connected both with the connector metallizations (AM) and with the underside contacts (UK), by way of interfacial connections (DK).

5. Component as recited in one of claims 1 to 4,

in which at least one additional intermediate layer and at least one wiring level (VE) are provided between cover (AD) and frame structure (RS).

6. Component as recited in one of claims 4 or 5,

in which metal structures are provided in the wiring levels (VE), which implement conductor tracks and concrete passive components, selected from among capacitors, inductors, and ohmic resistors.

7. Component as recited in one of claims 1 to 6,

in which the material of the cover (AD) is selected from among ceramic, metal, and glass, and in which the material of the frame structure is selected from among benzocyclobutene, polyimide, and benzoxazol.

8. Component as recited in one of claims 1 to 7,

in which a microelectronic component, a surface wave component, an FBAR resonator, a micro-optic component, a micromechanical component, or a hybrid component of the stated types is implemented.

9. Component as recited in one of claims 1 to 8,

in which the cavity surrounding the component structures (BS) is filled with a protective gas having a higher or lower spark-over resistance than air.

10. Component as recited in one of claims 1 to 9,

in which all the interfacial connections (DK) are configured to be conical.

11. Method for the production of a hermetically encapsulated component as recited in one of the preceding claims, comprising

- component structures (BS) for a plurality of individual components are produced on the front face of a wafer (W),

- a frame structure (RS) is applied to the wafer, which structure surrounds the component structures (BS) that are assigned to an individual component, in each instance, in ring shape,

- the frame structure is glued to a diffusion-proof cover (AD), so that the component structures assigned to an individual component are disposed in a sealed cavity, in each instance,

- interfacial connections (DK) are provided in the cover, which connect the component structures on the wafer with contacts (UK) on the underside of the cover, which faces away from the wafer, in electrically conductive manner,

- the interfacial connections are sealed with a diffusion-proof underside metallization, from the underside of the cover,

- a trench pattern of cuts (ES) is produced from the back face of the wafer, which cuts through the outer edge region of each frame structure and reaches into the cover,

- the entire back face of the wafer, including the surfaces exposed in the cuts (ES), is provided with a back face metallization,

- a separation of the individual components along the cuts is carried out.

12. Method as recited in claim 11,

in which an intermediate layer (ZS) is produced together with or in addition to the frame structure (RS),

in which another wiring level (VE) is produced on the intermediate layer, and connected with

the connector metallizations (AM) on the wafer (W) by way of interfacial connections (DK).

13. Method as recited in claim 11 or 12,

in which a cover film is glued over the frame structure (RS) as an intermediate layer (ZS), which film encloses the component structures (BS) in cavities.

14. Method as recited in one of claims 11 to 13,

in which the cover film is first applied to an ancillary film, laminated onto the frame structure (RS) together with the former, and structured, and in which the ancillary film is subsequently removed.

15. Method as recited in claim 14,

in which the cover film is applied to the ancillary film as a reaction resin, in viscous form, and cured after lamination.

16. Method as recited in one of claims 11 to 15,

in which the frame structure (RS) as well as the intermediate layer (ZS), if present, and/or the cover film are structured after being applied.

17. Method as recited in claim 16,

in which the method for structuring the frame structure (RS) and/or the intermediate layer (ZS) and/or the cover film is selected from among photo-structuring, structuring etching using a resist mask, or laser ablation.

18. Method as recited in one of claims 11 to 17,

in which a base metallization is first sputtered on to produce the underside metallization (UM) and/or the back face metallization (RM) and/or the wiring level (VE), and subsequently reinforced by wet chemistry or galvanically.

19. Method as recited in claim 18,

in which the metallization for the back face metallization (RM) and/or the underside metallization (UM) and/or the wiring level (VE) is applied over the entire area and subsequently structured.

20. Method as recited in claim 19,

in which the exposed component structures (BS) are covered with a protective varnish before the whole-area metallization for the wiring level (VE) is applied, and in which the protective varnish is subsequently removed, together with the metallization applied on top of it.

21. Method as recited in one of the preceding claims,

in which the surface is roughened, at least in the region of the frame structure (RS), on the front face of the wafer (W) and/or on the top of the cover (AD).